

IV.—*Descriptions of Asiatic Diurnal Lepidoptera.*

By FREDERIC MOORE, F.Z.S.

Fam. Danaidæ.

Danais nipalensis.

Male. Upperside dull ferruginous black: fore wing with the basal internal half bright ferruginous, intersected by the black veins; an oblique subapical narrow series of five white spots, the second, third, and fourth elongated, the fourth longest, the fifth subconical; a series of two median submarginal and four marginal small white spots: hind wing with the spaces between the veins to beyond the disk ferruginous, intersected by broad black-margined veins. Cilia alternate black and white. Head, thorax, and legs black, spotted and streaked with white. Abdomen ferruginous. Underside paler ferruginous black, marked as above.

Exp. $3\frac{7}{8}$ inches.

Hab. Katmandu, Nepal (*General Ramsay*). In coll. F. Moore.

Nearest to *D. chrysippus*, from which it may be distinguished by the absence of all white markings, except the narrow oblique subapical series on the fore wing.

Danais gautama.

Female. Black with bluish-white markings: fore wing with two long streaks within base of cell and three short streaks at its end; a series of five narrow streaks beyond end of the cell; six discal spots; two lengthened narrow streaks starting from base between lower median and submedian veins, and a spot beyond, the upper streak broken near its end; three small spots before the apex and a marginal row of spots; a short streak at base of hind margin: hind wing with three streaks within the cell; an elongated discal series of streaks, and two outer marginal rows of small spots.

Exp. $3\frac{2}{3}$ inches.

Hab. Henzada, Rangoon district, Burmah (*Watkins*). In coll. F. Moore.

Most nearly allied to *D. septentrionis*, Butler, but differs in the shape of the fore wings (these in *D. gautama* being shorter), the two basal streaks within base of the cell, the wider interspaces between the discal and marginal spots, and in the form of the streaks below the cell; on the hind wing it has an additional central streak within the cell, and the discal streaks between the veins are broad.

Danais nilgiriensis.

Fuliginous black: fore wing with a bluish-white striated streak within the cell; three subapical costal spots, below which are two narrow streaks, the lower elongated; five spots within the disk; an elongated, black-centred, triangular streak between lower median and submedian veins; a submarginal series of seven spots, the lower, second, and third with a dentate point outward; a short marginal row of small dots from posterior angle: hind wing with a bluish-white, narrow, fusiform streak within the cell; five contiguous small narrow spots outside the cell; three long narrow abdominal streaks; a submarginal series of spots, the upper two largest, the third dentate, the others small; a marginal row of smaller spots. Head, thorax, and legs black, spotted and streaked with white. Abdomen blackish above, grey beneath. Underside paler, markings as above.

Exp. $3\frac{2}{8}$ inches.

Hab. Coonoor, Nilgiris (*Dr. Day*). In coll. F. Moore.

Euplœa coreoides.

Male and *female* dark velvety olive-brown, palest externally.

Male. Upperside—fore wing with a prominent submarginal and marginal series of small white spots; two elongated silky impressed marks between lower median and submedian veins: hind wing with broader series of white oval and rounded submarginal and smaller rounded marginal spots. Underside paler; marginal spots as above; both wings with small white spot at end of the cell and contiguous series beyond.

Female with marginal spots as in male, the submarginal series on both wings above and the discal series on fore wing beneath being larger.

Exp. ♂ $3\frac{2}{8}$, ♀ $3\frac{4}{8}$ inches.

Hab. Malabar (Nilgiris and Wynaad). In coll. F. Moore.

Has much the appearance of *E. core*, figured by Cramer (which is also found in the same locality), but may be distinguished from that species by the two elongated silky impressed marks in the male, the male of *E. core* having but a single short narrow mark.

Euplœa lankana.

Male. Upperside dark velvety olive-brown, palest externally: fore wing with a submarginal and marginal row of very small indistinct whitish spots; two elongated silky impressed marks between the lower median and submedian veins: hind wing with a submarginal and marginal row of

whitish spots, the former oval from the anal angle and duplex anteriorly, the latter smaller and round. Underside paler; marginal white spots the same, those on fore wing more prominent; both wings with a small white spot at end of cell, and a contiguous series beyond.

Exp. 3 to $3\frac{5}{8}$ inches.

Hab. Ceylon. In coll. F. Moore.

This species stands in the British Museum cabinet as the *E. core* of Cramer, and is referred to as such in Mr. Butler's monograph (P. Z. S. 1866, p. 276). It is allied to *E. coreoides*, but differs from it in the shape of the wings, the fore wing being broader, shorter in the hind margin, and more trigonal in form; the hind wing also is somewhat longer hindward and less rounded on the outer margin.

Euplæa asela.

This is the Ceylon representative of *E. core*, and differs from typical specimens from India in the male and female being above and beneath of a paler olive-brown, having both rows of marginal spots very small, partly obsolete, and of an olive-white colour, those on the hind wing also being smaller and less prominent.

Exp. $3\frac{2}{5}$ inches.

Hab. Ceylon. In coll. F. Moore.

Euplæa sinhala.

Male. Upperside dark velvety olive-brown: fore wing with a short, broad, oval, silky impressed mark between the median and submedian veins, a submarginal row of small ochreous-white spots and marginal lower row of minute spots: hind wing with a broad median flesh-coloured patch; costal border broadly cinereous; a submarginal series of oval ochreous-white spots and marginal series of small round spots. Underside pale olive-brown throughout: fore wing with hind margin broadly cinereous, the sexual mark dusky; a series of whitish spots outside the cell; both wings with a submarginal and marginal series of spots as above.

Exp. $3\frac{2}{5}$ inches.

Hab. Ceylon. In coll. F. Moore.

Euplæa irawada.

Male. Upperside dark blackish brown: fore wing glossed with brilliant steel-blue; a lilac-blue spot at lower end of the cell, and a contiguous discal series of six similar spots; a marginal upper series of six small white spots and a marginal

lower row of white dots; an elongated, silky, impressed streak between lower median and submedian veins: hind wing with a flesh-coloured patch extending over upper part of the cell; anterior margin broadly cinereous; a submarginal row of pale oval spots and a marginal row of small round spots. Under-side brown: fore wing suffused in the disk with black; hind margin broadly and an elongated lower discal spot cinereous white; second discal spot and cell-spot blue; upper spots minute, marginal rows of white spots distinct: hind wing with marginal row of distinct white spots, submarginal row partly obsolete; a small blue spot at end and a contiguous series outside the cell.

Hab. Henzada, Rangoon district, Burmah (*Watkins*). In coll. F. Moore.

Exp. $3\frac{3}{4}$ inches.

Hestia malabarica.

Allied to *H. belia*, but differs on the fore wing in the costa being black-streaked, the cell-spot more compact, there being also a contiguous but distinct spot situated outside the cell nearer the base and between the costal and subcostal veins; the discal series of spots turns to the costa more abruptly and nearer to the end of the cell; these spots are more conical and have no contiguous patches on the veins; the marginal series of vein-marks are on long peduncles. On the hind wing the spots are somewhat smaller. Abdomen above with a broad dorsal black band.

Exp. 5 to $5\frac{1}{4}$ inches.

Hab. Malabar, S. India. In coll. F. Moore and British Museum.

“Found in woody places on the western coast, especially on the thick-wooded mountain-passes up the Western Ghats and Nilgiris.”

Fam. Nymphalidæ.

Parthenos cyaneus.

Form and pattern of *P. gambriseus* from Silhet, but of larger size, the ground-colour throughout the wings greyish blue, the white spots on fore wing prominent, the two elongated subapical spots entire and not broken at their costal end; the two median transverse black bands broken up into spots, the discal series of longitudinal streaks very narrow, and the submarginal lunules also narrow.

Exp. ♂ $3\frac{3}{4}$, ♀ $4\frac{1}{4}$ inches.

Hab. Ceylon. In coll. F. Moore.

Parthenos virens.

Form and pattern of *P. gambrisius*, ground-colour of the wings light brassy green: fore wing with the white spots as in *P. cyaneus*; black markings not so prominent, but somewhat confluent and leaving little interspaces between the marginal series, the submarginal row on hind wing being very broadly conical.

Exp. $3\frac{3}{4}$ inches.

Hab. Calicut, Malabar coast. In coll. F. Moore.

Neptis sangaica.

Male and *female*. Upperside black, markings white: fore wing with short discoidal streak and large contiguous spot, a discal transverse curved series of broad spots, and a marginal row of prominent small lunular spots; hind wing with broad subbasal incurved band, and a broad outer maculated band. Underside dark ferruginous; fore wing with black-bordered markings as above; hind wing with black-bordered markings as above, also two short basal white streaks, an ill-defined white lunular line between the two broad bands, and a narrow whitish line on the extreme outer margin.

Exp. ♂ 2, ♀ $2\frac{3}{8}$ inches.

Hab. Snowy Valley, Province Chekiang. In coll. W. B. Pryer and F. Moore.

Most nearly allied to *N. alompra* from Assam, and quite different from *N. eurynome*, may be distinguished by the absence on both the upper and underside of the hind wing of the narrow submarginal white lunular line.

Athyma Pryeri.

Male. Near to *A. Helmanni* from the Altai, but differs from the same sex of that species in its larger size, the fore wing being more produced at the apex, this wing above having the markings more prominent and longer, and a distinct marginal row of white streaks; the band on the hind wing is also broader, and there is a very prominent marginal row of white streaks. Underside similarly but more prominently marked; the marginal white streaks on hind wing also prominent (these being nearly obsolete, both above and beneath, in *A. Helmanni*), with broader interspace between them and the median band.

Exp. $2\frac{3}{4}$ inches.

Hab. Snowy Valley, Province Chekiang. In coll. W. B. Pryer.

The markings in this form have much the appearance of those in *A. sulphitia*, Cram.

Fam. Pieridæ.

Appias mahana.

Male. Allied to *A. indra*, but on upperside differs in having the apical black border less prominent, narrower, extending to a less distance posteriorly (terminating before reaching the lower median vein), and containing five rather large speckle-bordered spots, one between every two veins. Underside—apex of fore wing whitish buff, brown-speckled, bordered by a short black-speckled curved streak: hind wing whitish buff, brown-speckled throughout, a series of these speckles also forming ill-defined, uninterrupted, transverse streaks; discocellular black spot prominent.

Exp. $2\frac{1}{4}$ inches.

Hab. Darjiling (*A. Grote*). In coll. F. Moore.

Appias narendra.

Allied to *A. indra* and *A. Lucasi*.

Male. Upperside—fore wing with broad black apex showing two white spots; hind wing with a narrow black-speckled margin, the speckles also slightly extending up each vein. Underside—apex of fore wing buff-brown, black subapical band broad: hind wing buff-brown, densely speckled with brown scales, a series of these forming irregular, uninterrupted, zigzag, transverse streaks; discocellular spot small, black.

Exp. $2\frac{1}{3}$ inches.

Hab. Ceylon. In coll. F. Moore.

Terias cingala.

Upperside yellow; fore wing with broad brown outer marginal band; hind wing with narrow brown marginal band. Cilia brown. Underside pale yellow; hind wing with two slightly perceptible dusky transverse streaks.

Exp. $1\frac{4}{5}$ inch.

Hab. Ceylon. In coll. F. Moore.

Form of wings as in *T. venata*, but differs in having the marginal band on fore wing scalloped and broadly terminating at posterior angle as in *T. drona*. From *T. rama* (the Ceylonese ally of *T. venata*) it differs also in the same manner, as well as being without a black discocellular streak on the underside of fore wing and the three subbasal brown spots and two prominent transverse streaks on the hind wing.

Terias pallitana.

Upperside yellow: fore wing with broad apical marginal

brown band, scalloped and terminating abruptly above the posterior angle of the wing as in *T. læta*: hind wing with a broad apical brown patch terminating in a marginal line to anal angle. Underside paler, without markings. Form of wing as in *T. drona*.

Exp. $1\frac{2}{5}$ inch.

Hab. Kattywar (Bombay). In coll. F. Moore.

Teracolus pallens.

Form and pattern of *T. eucharis*. Upperside—fore wing with large pale orange apical patch, narrowly black-bordered on its outer margin and extending slightly for a short distance along the veins: hind wing without marginal spots. Underside pale buff-yellow on apex and hind wing: fore wing with slight dusky brown, recurved, apical transverse streak, and short apical streak on hind wing.

Exp. $1\frac{3}{8}$ to $1\frac{5}{8}$ inch.

Hab. Bombay (*Dr. Leith*); N. Canara (*Ward*): In coll. F. Moore.

Ixias kausala.

Male and female: upperside pale yellow; cilia pale orange; underside buff-yellow; base of fore wing lemon-yellow. *Male*: Fore wing with broad triangular pale orange sub-apical band, intersected by black crossing veins; the band bordered on its inner edge by a narrow blackish-speckled margin encompassing a small orange spot at end of cell: hind wing without marginal border, having only a few blackish speckles at anterior angle. Underside: fore wing with a small black-speckled discocellular spot; hind wing with small dusky brown spot on anterior margin and two similar spots below it and near the angle; a few pale brown striæ interspersed between the veins.

Female. Upperside with subapical band pale orange on its lower portion only, the costal portion being yellow, the lower portion with a transverse series of four blackish spots, one between each vein, the upper portion bordered by a broad black discocellular streak, the interspace between this and the lowest black spot marked only by a few blackish speckles; hind wing as in male. Underside with discocellular spot prominent, and the transverse row of spots brown with whitish centres; the brown spots on hind wing also with whitish centres.

Exp. $1\frac{3}{4}$ inch.

Hab. Kussowlie, N.W. Himalaya. In coll. F. Moore.
Ann. & Mag. N. Hist. Ser. 4. Vol. xx. 4

Ixias agnivera.

Allied to *I. marianne*, but is smaller. The male above has the black inner border of the discal red patch very narrow, this border in the female being entirely absent on the lower portion of the patch. In both sexes the marginal border of the hind wing is also much narrower. Beneath, both sexes are of a much deeper yellow, and the orange on the fore wing brighter, the subapical series of spots on fore wing have orange-coloured centres, and all the spots on hind wing have clear white centres, those of the submarginal series being very prominent.

Exp. ♂ $1\frac{5}{8}$, ♀ $1\frac{6}{8}$ inch.

Hab. Ramgurh District, Hazareebagh (Chota Nagpore), Bengal. In coll. F. Moore.

Ixias satadra.

Male. Upperside yellow, tinged with green at base and on costa: fore wing with broad black apex, occupying more than half the wing; subapical band narrow, central, curved, brick-red, crossed by black veins; lower veins also broadly black-speckled along their edges, and a series of these speckles forming across the middle of the band a slightly distinct transverse streak; hind wing with rather broad maculated marginal band. Underside clear yellow; a marginal dot between each vein: fore wing with small distinct discocellular black spot and an outer transverse series of indistinct blackish speckles, and black-speckled patch at posterior angle; hind wing with a transverse discal series of yellowish brown spots, the anterior spot and two before the apical angle most prominent.

Exp. 2 inches.

Hab. Simla District, N.W. Himalaya (*Captain Hellard*). In coll. F. Moore.

Fam. *Lycænidae*.*Curetis acuta.*

Nearest to *C. bulis*, Bd.; differs in both sexes in the acute prolongation of the apical angle, and obliquity of the outer margin, of the fore wing, darker colour; the golden (in the male) and white (in the female) portion on both wings less prominent, being confined to a smaller space on the middle of the wing.

Exp. 2 inches.

Hab. Shanghai (*Holdsworth*). In coll. F. Moore.

Curetis truncata.

Female. Brown, fore wing indistinctly paler towards the base; hind wing whitish narrowly on anterior margin and slightly at the apex. Underside less prominently marked than in *C. acuta*.

Exp. $1\frac{6}{8}$ inch.

Hab. Shanghai (*Holdsworth*). In coll. F. Moore.

Distinguished by the short, truncate fore wings, the outer margin being slightly convex, the shorter abdominal border, and also truncated outer margin.

Aphnæus elima.

Wings acute at apex; anal lobe prominently distended.

Male: upperside brown, posterior half of fore wing and middle of hind wing glossed with smalt-blue; fore wing with a not very prominent subapical reddish patch, in which are two brown spots; abdominal margin pale testaceous; anal lobe reddish testaceous. *Female* brown; fore wing with large triangular maculated red patch; hind wing with reddish discal streak and anal lobe. Underside dull pale testaceous; transverse spots and bands very pale, being defined only by outer margins, each traversed by a silver streak; no marginal row of dots.

Exp. ♂ $1\frac{1}{8}$, ♀ $1\frac{2}{8}$ inch.

Hab. Manpuri, N.W. India (*C. Horne*). In coll. F. Moore.

Most nearly allied to *A. ictis*, from which it may be known by the less prominent apical red patch, the difference in colour and less apparent markings of the underside.

Aphnæus formosanus.

Most nearly allied to *A. zoilus*, but differing in its larger size, broader black borders, and smaller red anal lobe. On the underside the bands are the same in number, but broader and more confluent, both in the fore and hind wings; the red anal lobe has also much smaller black spots.

Exp. $1\frac{4}{8}$ inch.

Hab. Formosa. In Coll. W. B. Pryer.

Dipsas birupa.

Male. Upperside metallic green, both wings broadly margined with brown.

Female. Upperside dark brown; fore wing slightly tinged with blue at base; two subapical bluish white spots. Under-

side greyish fawn-colour; both wings with transverse, pale-bordered, brown discocellular streak, a straight discal and a lunular submarginal band; the discal band on fore wing short, the discal band on hind wing straight till where it reaches the sinuous angle; two anal, black-centred, bright orange spots. Cilia whitish.

Exp. $1\frac{3}{10}$ inch.

Hab. Masuri, N.W. Himalaya (*Capt. Lang*). In coll. F. Moore.

Distinguished from *D. ziha* (of which, at present, I know only the female) in the underside being differently coloured, the submarginal band on fore wing being uniform in colour and without the terminal spots, and in the discal transverse band on hind wing being quite straight to where the sinuous portion turns off to abdominal margin.

Fam. Hesperidæ.

Pamphila Mencia.

Male and female. Upperside dark glossy olive-brown: fore wing of male with a curved discal series of five small yellowish spots, and with a contiguous oblique prominent narrow streak; two small spots also at end of the cell: hind wing with a discal series of three indistinct spots. Female differs in the absence of the oblique narrow discal streak on fore wing and the spots on the hind wing. Underside paler, longitudinally streaked with grey; spots the same; sexual streak on male not visible.

Exp. $1\frac{6}{10}$ inch.

Hab. Shanghai. In coll. W. B. Pryer and F. Moore.

In this species the wings are much broader than in *P. sinensis* (Mabille), and the hind wing is not lobed as in that species.

V.—*Report on the Crustacea collected by the Naturalists of the Arctic Expedition in 1875-76.* By EDWARD J. MIERS, F.L.S., F.Z.S., Assistant in the Zoological Department, British Museum.

[Plates III. & IV.]

THE Crustacea collected by the naturalists of H.M.S.S. 'Alert' and 'Discovery,' although not including many novelties, are of great interest on account of the high and hitherto unexplored latitudes reached by the late Arctic Expe-